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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/620,023	07/14/2003	Naga Bhushan	030168U2	8631

  

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QUALCOMM INCORPORATED		
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EXAMINER	
MUI, GARY	

  

ART UNIT	PAPER NUMBER
2616	

  

NOTIFICATION DATE	DELIVERY MODE
08/02/2007	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

us-docketing@qualcomm.com  
kscanla@qualcomm.com  
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<b>Office Action Summary</b>	Application No. 10/620,023	Applicant(s) BHUSHAN ET AL.	
	Examiner Gary Mui	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 May 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,9 and 10 is/are rejected.
- 7) ☒ Claim(s) 3-8 and 11-16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1, 2, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tiedemann, Jr. et al. (US 5,914,950) in view of Cheng et al. (US 6,999,425 B2).

For claims 1, 2, 9, and 10, Tiedemann, Jr. et al. teaches a method comprising of determining a set of hypotheses for decoding the message, wherein the set of hypotheses includes all combinations of available data rate and the number of subpackets (see column 4 and 5 lines 61 – 67 and 1 – 6); decoding the message using each of the reduced set of hypotheses (see column 7 lines 44 – 46); and the message is a reverse rate indicator (see column 7 line 47 – 51). Tiedemann, Jr. et al. fails to teach the method comprising of using historical transmission information to reduce the set of hypothesis.

Cheng et al. from the same field teaches an algorithm that gives a reverse link load value that is a moving average of the reverse link load from a time frame that goes from the distant past up to the preset. Each new calculation by the algorithm updates the most recently calculated reverse link load value by adding an increment load value to the previously obtained value and is dependent upon the number of frames in a window. The algorithm here disclosed does not ignore the previously calculated load value when computing the new load value. Actually, each new calculation by the algorithm builds on the previously calculated load value and modifies the previously obtained load value and modifies the previously obtained load value to include the most recently obtained load value (see column 5 lines 38 – 49). Through Cheng et al. example, described in column 6, there are load percentages and data rates associated with them and by using the algorithm Cheng et al. will find a load percentages that is optimal for performance by limiting the rate to meet the load percentage.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Tiedemann, Jr. et al. hypotheses determination to include Cheng et al. algorithm of reducing the hypotheses so that the system can maintain a high

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Quality of Service because all active users will have a connection and will not be forced to be dropped from the network.

### *Allowable Subject Matter*

5. Claims 3 – 8 and 11 – 16 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter:

For claims 3 and 11, the prior art fails to show alone or in combination the method or apparatus wherein each RRI codeword carries,  $N_{info}$  information bits, satisfying:  $2^{N_{info}} \geq N_{rate} \times N_{group}$ .

For claims 4 – 8 and 12 – 16, the prior art fails to show alone or in combination the method or apparatus of determining metrics for each possible state for receiving reverse rate indicator; determining a sequence detection window length; evaluating metrics for each state over the detection window length; and selecting a reverse rate indicator symbol based on the maximum metric.

### *Response to Arguments*

7. Applicant's arguments filed May 29, 2007 have been fully considered but they are not persuasive.

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With respect to the remarks on pages 8 – 11, that the reference of Cheng does not teach, “using historical transmission information to reduce the number of hypotheses comprising the plurality of hypotheses within the set of hypotheses”. The examiner respectfully disagrees.

Cheng teaches using an algorithm in calculating of load value, which is based on the previously calculated load value (historical information) to obtain a new load value (see column 5 lines 38 – 49). From the load value that is obtained will then reduce the set of rate limit values (see column 5 lines 43 – 55). Therefore, it is respectfully maintained that the combined reference of Tidemann, Jr. et al. and Cheng would have been obvious to arrive at the claimed invention.

### *Conclusion*

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary Mui whose telephone number is (571) 270-1420. The examiner can normally be reached on Mon. - Thurs. 9 - 3 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GM

07.28.2007

  
RICKY Q. NGO  
SUPERVISORY PATENT EXAMINER